Relationship Between Personal and Social Responsibility and the Roles Undertaken in Sport Education

Eva Guijarro[1], Ann MacPhail[2], Sixto González-Víllora[1], and Natalia María Arias-Palencia[1]

[1] University of Castilla-La Mancha

[2] University of Limerick

Abstract

Purpose: The purpose of this study was to examine the impact of undertaking roles in Sport Education on responsibility levels of elementary school students. **Method:** Forty-one fifth and sixth-grade students participated in a 15-lesson season. Students undertook five different roles into the Sport Education season and presented differing initial perceived responsibility scores. **Results:** Results in this study convey students' responsibility improvements for both personal and social responsibility during a season of Sport Education. There exist differences in students with low perceived responsibility depending on the role they undertake whereas students with high perceived responsibility do not present any difference according to the role they perform. **Conclusion:** In the physical education context, the teachers have to consider the personal characteristics of the students in the process of mapping students to roles.

Keywords

Role influence, physical education, Sport Education, elementary students.

Relationship between Personal and Social Responsibility and the Roles Undertaken in Sport Education

The aim of school physical education can be distilled into a number of universally-agreed points, including (a) enhance physical, mental, emotional, and social development, (b) develop physical creativity, competence, and confidence to perform a variety of physical activities, (c) examine human movement from different key perspectives, (d) work as individuals, with partners, in groups and as part of a team, in both competitive and non-competitive situations, and (e) encourage an appreciation of physical activities and promoted positive attitude towards establishing and sustaining an active and healthy lifestyle (Bailey, 2006).

The universally-agreed points above highlight that physical education can be considered to involve 'learning to move' and 'moving to learn' (Association for Physical Education, 2015). 'Learning to move' is concerned with learning the skills, techniques, and knowledge required for participation in physical activities, knowledge and control of one's body and its range and capacity for movement. 'Moving to learn' positions physical activity as a context for the means of learning and involves a range of learning outcomes which go beyond learning to engage in selected physical activities (e.g., social skills and problem solving).

It is the element of 'moving to learn' that this paper sets out to explore and contribute to understanding further. The relationship between different roles students undertake in a physical education class and the level of personal responsibility and social responsibility aligned with specific roles is the focus of this paper. It is anticipated that this will provide evidence on the extent to which the introduction and practice of different roles in physical education (e.g., captain, coach) can affect the level of responsibility, which in turn can instill in students an appreciation for being responsible for their own and others' involvement in a physically active lifestyle. Physical education's contribution to the affective domain through the personal and social development of individuals (and possibly to communities and society as a whole) has gained traction over the years as a

complementary, and important, element to the psychomotor and cognitive features of physical education (Laker, 2000).

The paper begins by exploring the extent of the affective dimension in physical education, including the elements of responsibility (Laker, 2000). The paper then outlines the teaching of roles and responsibilities (social responsibility and personal responsibility) in physical education. This is guided by the work of Siedentop's Sport Education (SE) model, which uses roles in an attempt to engage young people in being competent, literate, and enthusiastic sports people (Siedentop, Hastie, & van der Mars, 2011).

Affective Dimension in Physical Education

All school subjects, including physical education, are required to contribute to the students' affective domain (Jacobs, Knoppers, & Webb, 2013). A focus solely on the psychomotor and the technical, at the expense of the affective, unnecessarily restricts children's appreciation of sport. It also produces a lack of development of other demands, such as social responsibility, moral behavior, or democracy (Laker, 2000). In the psychosocial literature, these social competencies are called 'life skills' (Escartí, Llopis-Goig, & Wright, 2018). This connects with the conception of 'moving to learn,' which involves a range of learning outcomes such as social skills or problem solving (Association for Physical Education, 2015).

Parker and Stiehl (2015) affirm that physical education 'can make a difference' because of its nature, and helps students to learn social skills such as leadership, organization and team spirit. They highlight the importance of empowering children to develop responsible attitudes in the physical education context, through opportunities for choice, practice, and reflection. Physical education plays a crucial role for moral development of children because it is a context where a great deal of social interaction occurs among pupils and between pupil and teacher (Jacobs et al., 2013). There are opportunities to connect and interact with others in a cooperative way (Light, Funk, & Light, 2018)

as a tool to develop the above mentioned social skills in physical education (Coulter & Ní Chróinín, 2013).

Sport Education and the Teaching of Responsibility

To create a respectful and caring learning environment and help students to focus on effort and self-direction, specific strategies for empowering students with choices and voices are necessary (Hastie, 2017). The Teaching Personal and Social Responsibility model (TPSR; Hellison, 2011) has been central to considering the development of values and personal and social responsibility in young people. TPSR suggests five levels connected with personal and social responsibility: respecting the rights and feelings of others, effort, self-direction, caring and helping, and transference "outside the gym" (Hellison, 2011). Hellison's model has provided benefits in terms of dealing with aggressiveness and disruptive behaviors, self-control, caring, conflict resolution, responsibility, enjoyment, relatedness, empathy, self-confidence, self-esteem and self-efficacy (Pozo, Grao-Cruces, & Pérez-Ordás, 2018). In addition, other models, such as SE (Siedentop et al., 2011), are conceptualized in the field of physical education and sport as a potential way to diversify teaching with the aim to move beyond limited, repetitive, and decontextualize practices (Landi, Fitzpatrick, & McGlashan, 2016) as well as develop positive personal and social behaviors (Harvey, Kirk, & O'Donovan, 2014).

SE was created as an alternative to the multiactivity approach, stating that "in too many physical education programs, the only responsibilities students have are to obey class rules and do what the teacher tells them to do" (Siedentop et al., 2011, p. 7). SE was created with the objective of providing students a "deeper coverage of content and an expanded set of content goals" (Siedentop et al., 2011, p. 13). Traditional goals of physical education are inherent in SE, which include the development of techniques, fitness, and strategy, and also include objectives related to sport administration, student autonomy, teamwork, and understanding of the sport culture (Landi et al.,

93 2016). According to this argument, SE is based on a conception of physical education that goes
94 beyond skills and strategies.
95 Following Siedentop et al. (2011), SE is based on six essential characteristics. These are
96 seasons (providing students chances to play), affiliation (students are a member of a persisting team),
97 formal competition (where students perform the abilities they have learned during the preseason),
98 culminating event (the season finishes with a play-off), record keeping (recording aspects such as
99 fair play), and festivity (where students celebrate the experience of being involved in a sporting
100 activity). The student-centered features of SE support peer-teaching and cooperative learning
101 approaches, and SE has been considered a potential model for personal and social development
102 (Harvey et al., 2014). Personal responsibility can be understood as the ability of a person to respond
103 to the different situations he/she faces or, in Laker's words, the ability to "be accountable for one's
104 actions" (2000, p. 80). Within the physical education context, students are sometimes faced with
105 activities that do not motivate them and/or they are challenged to develop and understand new sport
106 abilities that require effort to proficiently perform them. A lack of personal responsibility is evident
107 when a student makes excuses or blames others for their own inappropriate behaviors. Social
108 responsibility arises when a student aids and supports peers on how best to improve their
109 performance in a physical education context. Since we interact almost every day with other people,
110 caring for and respecting others is a requirement for the development of the human condition (Laker,
111 2000).
112 Within SE, each teammate develops specific roles such as coach, captain, or fitness
113 instructor, and fulfils the responsibilities connected to this role (Siedentop et al., 2011). Landi et al.
114 (2016) proposed that roles in SE can be understood from a personal or social perspective, and that
115 they complement each other. Roles link with personal responsibility in terms of students feeling
116 conscious of not performing the roles effectively on behalf of their team. Alternatively, when a
117 student who is performing the role of referee does his/her best and strives for understanding the rules

of a new sport, this is an example of a student developing his/her personal responsibility. At the same time, this personal responsibility is aligned to a collective/social responsibility. For example, the coach learns how to develop her/his own team practice plan and the fitness trainers develop the progression in warm-ups that are linked with the team practice. As a result, the totality of the practice plan is designed by multiple members of the team.

By enacting roles in SE, students receive a considerable amount of responsibility (Farias, Hastie, & Mesquita, 2017) and, in turn, become more responsible for their learning and the changing role of the teacher (Casey, 2014). However, some preservice teachers are resistant towards the introduction of roles and responsibilities in SE when they believe they lack the necessary knowledge to implement them successfully in practice (McMahon & MacPhail, 2007). Some elementary school students have no experience in accepting responsibility, subsequently avoiding accountability for their actions (Stran, Sinelnikov, & Woodruff, 2012). In spite of this, SE is an effective framework for developing students' autonomy (Perlman, 2012) and a framework in which teachers appreciate student-centered teaching and become more of a facilitator (Hordvik, MacPhail, & Ronglan, 2019; Stran & Curtner-Smith, 2010) without losing students' compliance of the task (Layne & Hastie, 2015). In addition, students accept and enjoy the role they play in physical education (MacPhail, Gorely, Kirk, & Kinchin, 2008) while they are constantly involved in decision-making (Wahl-Alexander, Sinelnikov, & Curtner-Smith, 2017). Students also better understand the rules of the activity due to the personal experiences of engagement in officiating tasks (Sinelnikov & Hastie, 2010).

In spite of these positive findings, some challenges persist with SE. These include the transference of responsibility, including the reinforcement of gender stereotypes in physical education where boys occupy many of the central roles of power and decisions within the season or do not accept girls undertaking such roles (Chen & Curtner-Smith, 2013; Hastie, 1998). There is also evidence that students with higher status dominate social interactions (Brock, Rovegno, & Oliver,

2009). Students acknowledging problematic refereeing due to impartiality is another recorded challenge (Wahl-Alexander et al., 2017).

While some research has explored and exposed both positive and negative findings in relation to responsibility within SE, there exists little research that explores the differences in the development of students' responsibility that might be attributed to the different roles in SE. Within SE, individuals experience their own development of the role and, thus, each individual might perform the same role in a different way (i.e., a coach in a team could be good at providing feedback while another coach could be good at encouraging and motivating their teammates). Considering this assumption, and the difficulties in the generalization of students' behaviors within SE, this study will provide some examples of patterns of behavior through exploring three specific research questions: (a) what is the impact of the role students undertake in a SE season on students' perceived responsibility (personal and social)?; (b) how do students of different initial perceived responsibility (high/low initial perceived responsibility students) improve their responsibility?; and (c) how does the SE role affect students with different initial perceived responsibility levels (high/low perceived initial responsibility students)?

Method

Sport Education Fidelity

To establish fidelity of models' based practice, it is necessary to provide (a) a rich description of the curricular elements of the unit, (b) a detailed validation of model implementation, and (c) a detailed description of the program context (Hastie & Casey, 2014). In addition, Metzler (2011) affirms that it is important to share the contextual conditions, such as teacher expertise and operational requirements. These details are shared in the following sections.

Participants and context. This study was conducted in two physical education elementary classes in a school in a city in the middle of Spain. Students were enrolled in a 15-lesson basketball season following the principles of SE (Siedentop et al., 2011). The participants were 41 fifth (10-11 years old) and sixth (11-12 years old) grade students (21 boys and 20 girls; average age 11.17 ± 0.55)

from two classes. Students had no previous experience with SE and they had no prior experience with basketball in the academic year in the physical education context.

The first author, with basketball knowledge and experience of playing and coaching basketball, undertook the role of teacher-researcher and the class teacher supported her in all lessons. The teacher-researcher's previous exposure to SE included: (a) 10 lectures focused on models-based practice, including SE and the reading of the Siedentop et al. (2011) manual; (b) training in the development of SE features such as roles (developing role cards), affiliation (different ways of creating teams, number of players), and season phases (how to develop small-sided games and create an equal competition schedule); (c) previous participation and practical application of SE as a requirement of the teacher-researcher's undergraduate program; and (d) meetings with university teachers familiar with SE to establish objectives and content for each lesson as well as sharing views and finding solutions to any challenges that arose.

Description of the unit. Students participated in a 15-lesson SE learning unit (over a period of five weeks), following the main characteristics of the SE (seasons, culminating events, affiliation, record keeping, formal competition, and festivity). The intervention included three lessons per week, with each lesson lasting for 45 minutes and taking place in the school's gymnasium (40x20 meters). The learning unit was designed by the research team as described in Table 1.

The intervention included the following five characteristics of the SE model: seasons, affiliation, roles, record keeping, and culminating event. The unit was organized as a competitive season that represented a real formal competition where different phases took place: (a) preseason phase (lessons 1 to 9), where seven lessons focused on basic skills in basketball and the latter two focused on helping students to referee matches; (b) competition phase (lessons 10 to 14), where lessons started with team practice directed by students and where the competition took place (the teacher created the competition schedule to ensure the same playing time for all the teams); and (c) play-off (lesson 15), where students organized the final event and festivity.

Teams were configured (affiliation) in the first lesson and remained constant throughout the season. The captains were chosen by the teacher-researcher with the help of the class teacher of the students. Captains were in charge of the creation of equal teams in terms of gender and skill level. Once all the captains agreed on these teams, each were allocated a random team. Teams selected names and team color.

Students experienced different roles (coach, captain, referee, physical trainer, and organizer) according to the students' characteristics (i.e., basketball skill level, social sphere, managerial skills). Roles were progressively introduced and students performed different learning tasks associated with each role within their teams. The teacher and the teacher-researcher chose those students who performed the role of coach (skilled students in basketball) and captain (students with high social skills). The remaining roles were chosen and discussed in individual meetings between students in each team, the teacher-researcher and the teacher. The coach was to progressively teach activities to their team members. The captains were responsible for mediating internal conflicts in the team. The referee refereed matches and consequently had to be able to reinforce the rules and strive to be fair in their decisions. The physical trainer was responsible for leading the warm-up and stretching. Students undertaking the role of organizer were responsible for organizing the material each day and the culminating event. Students were trained specifically for each of the role-associated tasks, undertaking meetings with the teacher and their peers with the same role, teaching them strategies related to feedback, problem resolution, basketball knowledge and how to present activities. The majority of meetings took place in the recess. When such meetings took place during the physical education lesson, they were organized while their peers were actively involved in learning activities.

Before beginning each lesson, students were notified in advance of which aspects of the lesson they could earn points from (record keeping). Teams earned points by playing games, conveying appropriate behaviors (i.e., respecting peers, respecting fair play), and for creativity tasks (i.e., designing a flag or creation of a team slogan). During the lesson, teams were able to earn a

maximum of one point for appropriate behaviors while students could only earn points for creativity in lessons that encouraged creativity (i.e., when the flag competition took place). When matches took place, teams earned three points by winning, two by tying with the other team, and one when the team lost. These points were visible to all the students on the gymnasium wall on a weekly basis (matches, appropriate behaviors, and creativity tasks).

The total points accumulated across the 15-lesson unit created a ranking of teams. A ceremony (culminating event) with music and awards for all students (participation diploma), celebrated the end of the unit. Students received awards such as 'most fair play student/team,' 'most valued player,' or 'most creative student.' These students/teams were selected by fair play points earned by students in the same team during pre-season tasks, other teams during games, and teacher-researcher and teacher throughout the season. Student organizers were responsible for organizing the culminating event that included announcing the final point standings and award recipients.

Instruction and treatment validity. To assess the instruction and treatment fidelity, 12 of the 15 lessons of the unit were video recorded for the assessment of the presence or absence of the key aspects of a SE season, listed in a fidelity check developed by Sinelnikov (2009). Such aspects include a team selection phase, students involved in the process of team selection, persisting teams, teacher encouraging students to resolve conflict within groups, fair play, and sportsperson awards. Two observers, not related to the project, with experience in SE in physical education, observed the 12 lessons and reached an interobserver agreement of 100% with regard to the presence or absence of these elements. Reliability was calculated as the total observed agreements divided by the agreements plus disagreements multiplied by 100.

Data Collection

The study followed a pre-post-test repeated measures design. Before starting and at the completion of the intervention (pre- and post- intervention), personal and social responsibility was measured via a questionnaire for each student during student class time in the familiar setting of the

students' regular classroom. The questionnaire was administered by the teacher-researcher and supervised by the students' physical education teacher. The pre- and post-intervention questionnaire was administered on the same day and schedule hour to avoid potential bias due to the day time (e.g., accumulated fatigue). To assess personal and social responsibility of students, the Spanish version of Personal and Social Responsibility Questionnaire (Li, Wright, Rukavina, & Pickering, 2008) was used. This questionnaire contains 14 items, seven related to personal responsibility and seven related to social responsibility. Students answered each item using a Likert scale of 1 to 6, where 1 aligned with "totally disagree" and 6 with "totally agree" (in all but one of the items). Personal responsibility represents two TPSR levels: effort (four items referring to self-motivation or exploration of effort and new tasks) and self-direction (three items referring to on-task independence or goal-setting progression). For example, "I try to work hard even though I do not like the activity" and "I set goals." Social responsibility comprises a further two TPSR levels: respect for others (three items referring to self-control or the right to peaceful conflict resolution) and caring and helping (four items referring to caring and compassion or sensitivity and responsiveness). For example, "I respect others" and "I help others." Results regarding reliability of the items showed a Cronbach's alpha of 0.825 (0.687 and 0.798 for social and personal responsibility, respectively).

Initial instructions given to the students were: (a) we are interested in knowing how you usually behave during physical education class; (b) there are no correct or incorrect answers; and (c) please answer the following questions honestly and circle the number that best represents your behavior.

Ethics

To conduct the study, written consent from the researcher's University Ethics Committee, the board of directors of the school, and parents/guardians of each student was obtained. Students agreed to participate and were treated in agreement with the ethical guidelines of the American

Psychological Association with respect to participant assent, parent/guardian consent, confidentiality and anonymity.

Data analysis

The Statistical Package for the Social Sciences (SPSS; Version 24.0) was used for the data analysis. Kolmogorov-Smirnov test showed normality in all dependent variables, which led to the use of parametric statistics. Results are expressed as means and standard deviations. The responsibility pre-test scores were used to create two balanced groups in terms of the number of students (21 in low perceived responsibility group and 20 in high perceived responsibility group) that allowed subsequent comparisons by roles (five roles). Median split, based on the data frequencies was used to create these two groups. Previous studies have also created two different groups in SE (Ward, Hastie, & Strunk, 2019). The data collected pre-intervention were used to classify students into two categories (lower/higher perceived responsibility) based on the initial students' responsibility levels in this particular sample (from 37.00 to 70.00).

For analyzing pre and post-test scores in all dependent variables, two analyses were performed to analyze the pre- and post-intervention questionnaire scores for all dependent variables. First, initial homogeneity between roles was assessed through a multianalysis of variance (MANOVA) at pre-intervention. Second, descriptive statistics (means and standard deviations) and multivariate analysis of covariance (MANCOVA) using the variable role as a factor with five levels (coach, captain, physical trainer, referee, and organizer) were conducted to assess the impact of the roles. The post-intervention results from the different variables assessed were considered the dependent variables, while the same measures in the pre-intervention were used as covariables. Significant main effects were further analyzed using Bonferroni for Post Hoc comparisons. In order to analyze the responsibility evolution through the season by initial responsibility level (low/high), a MANOVA with "$\overline{X}$ Diff. Pre-Post" variable was used to analyze the differences in the improvement in each responsibility variable, using the variable responsibility level as a factor with two levels

(low/high). For analyzing pre and post-intervention scores in all dependent variables by role, the analysis was performed with each group separately using a MANCOVA with the role as a factor with five levels (coach, captain, physical trainer, referee, and organizer).The post-intervention results from the different variables assessed were considered the dependent variables, while the same measures in the pre-intervention were used as covariables. Significant main effects were further analyzed using Bonferroni for Post Hoc comparisons.

Finally, effect size was calculated. Cohen (1988) suggested that small, medium, and large effects would be reflected in values of η^2 of 0.0099, 0.0588, and 0.1379, respectively. The level of significance was established at $p \leq 0.05$, with a confidence interval for differences of 95%.

Results

The results of the 15-lesson season on responsibility development (personal and social) by role groups, responsibility evolution by initial responsibility, and post-intervention comparisons by role in low and high perceived responsibility students are presented in this section. Table 2 conveys the responsibility evolution through the season by role groups. Initial MANOVA showed no significant differences in pre-intervention scores by role (coach, captain, physical trainer, referee or organizer) in any of the dependent variables [$F(4, 36) = 0.630$, $p = 0.853$, $\eta^2 = 0.070$]. The MANCOVA analysis showed significant differences in post-intervention scores by role in the dependent variables [$F(4, 36) = 2.946$, $p = 0.001$, $\eta^2 = 0.277$]. There existed significant changes in total responsibility by roles [$F(4, 36) = 8.667$, $p < 0.001$, $\eta^2 = 0.520$], with significant differences between coach and organizer ($p = 0.010$), captain and organizer ($p < 0.001$), and referee and organizer ($p = 0.001$).

There existed significant differences by roles in social responsibility [$F(4, 36) = 16.234$, $p < 0.001$, $\eta^2 = 0.670$], with significant differences between coach and organizer ($p < 0.001$), captain and physical trainer ($p = 0.012$), captain and organizer ($p < 0.001$), physical trainer and referee ($p = 0.009$), and referee and organizer ($p < 0.001$). Significant differences were found by roles in respect

for others [F(4, 36) = 5.886, p = 0.001 , η^2 = 0.424], with significant differences between captain and organizer (p = 0.010), and referee and organizer (p = 0.003). There existed significant differences by roles in caring and helping [F(4, 36) = 13.635, p <0.001 , η^2 = 0.630], with significant differences between coach and organizer (p < 0.001), captain and organizer (p < 0.001), and referee and organizer (p < 0.001).

Students' evolution in terms of responsibility at the initial responsibility level are presented in Table 3. Post-intervention analysis showed significant differences between the improvement in the dependent variables in low and high groups [F(1, 39) = , p < 0.001 , η^2 = 0.694]. These differences were present in total responsibility [F(1, 39) = 66.026, p < 0.001, η^2 = 0.629], personal responsibility [F(1, 39) = 10.007, p = 0.003, η^2 = 0.204], effort [F(1, 39) = 19.100, p < 0.001, η^2 = 0.329], self-direction [F(1, 39) = 21.921, p < 0.001, η^2 = 0.360], social responsibility [F(1, 39) = 25.795, p < 0.001, η^2 = 0.398], respect for others [F(1, 39) = 8.062, p = 0.007, η^2 = 0.171], and caring and helping [F(1, 39) = 17.466, p < 0.001, η^2 = 0.309].

Attending to pre-intervention comparisons by role in lower perceived responsibility students, there were no significant differences in the dependent variables [F(4,16) = 1.762, p = 0.073, η^2 = 0.333]. However, there were significant differences in post-test variables [F(4,16) = 3.280, p < 0.001 , η^2 = 0.471]. These differences were evident in in total responsibility [F(4,16) = 8.697, p = 0.001, η^2 = 0.796], with significant differences between captain and physical trainer (p = 0.030), captain and organizer (p = 0.003), referee and physical trainer (p = 0.003), and referee and organizer (p = 0.005). There were also significant differences in social responsibility [F(4,16) = 19.993, p < 0.001 , η^2 = 0.833], with significant differences between coach and physical trainer (p = 0.039), coach and organizer (p = 0.005), captain and physical trainer (p = 0.002), captain and organizer (p < 0.001), physical trainer and referee (p = 0.004), and referee and organizer (p < 0.001). There were significant differences in respect for others [F(4,16) = 5.952, p = 0.004, η^2 = 0.598], with significant differences between captain and physical trainer (p = 0.019), captain and organizer (p = 0.044), and physical

343 trainer and referee (p = 0.029). There were significant differences in caring and helping [F(4,16) =
344 15.570, p < 0.001 , $\eta^2 = 0.796$], with significant differences between coach and organizer (p < 0.001),
345 captain and organizer (p < 0.001), and referee and organizer (p < 0.001). There were no pre-
346 intervention [F(4,15) = 1.696, p = 0.091, $\eta^2 = 0.341$] or post-intervention [F(4,15) = 0.715, p = 0.762,
347 $\eta^2 = 0.185$] significant differences in high perceived responsibility students.

348 **Discussion**

349 Three main themes arise for discussion: (a) responsibility development during a SE season,
350 (b) responsibility development in students with different perceived responsibility, and (c)
351 responsibility development in students with different perceived responsibility and role. Each of these
352 themes is presented in turn.

353 **Responsibility Development during a SE Season**

354 **Total responsibility.** Previous research demonstrates that engagement in the roles associated
355 with SE may lead to an increase in students' responsibility (Perlman, 2012). Despite this claim, it is
356 noteworthy in this study that, while all roles started from a similar perceived responsibility, the
357 impact of the intervention was not the same for all roles. It is important to note that students were
358 novices in performing roles in the SE model. This directs us to consider the lack of experience of the
359 students as a factor that may have a significant impact on the development of responsibility the first
360 time students are faced with roles and a more autonomous environment.

361 **Personal responsibility.** Students in SE are called to take an important role in their learning
362 and progressively receive a higher autonomy by developing concrete tasks in the role they perform
363 (Siedentop et al., 2011). In order to develop their role successfully, students have to take their roles
364 seriously (Hastie, 1996; Hastie & Sinelnikov, 2006). This requires effort, which links with personal
365 responsibility. In this intervention, there were not significant differences in post-intervention scores
366 attending to the role students performed, leading to a similar evolution in personal responsibility
367 between the different roles.

Specifically, Hellison (2011) highlights effort and self-direction as the levels that comprise personal responsibility. Each role implies different tasks that students must perform to make each role personal, and this could link with the idea of 'students doing their best' when performing roles. In this sense, Hastie (1996) and Hastie and Sinelnikov (2006), in their studies focused on student role involvement, noted that during physical education lessons taught through SE, students took their roles seriously, implying personal effort on behalf of the students. In the present study, the post-interventions scores reflect a similar pattern of effort amongst the students.

In relation to self-direction, it could be assumed that because students participated in an intervention that promoted autonomous learning in physical education, they should improve considerably during the intervention with respect to self-direction. Although positive findings in terms of the roles students perform have been noted, García-López et al. (2012) reported an increment in aggressiveness in students performing the roles of coach and technical director, suggesting that the higher level of responsibility involved in these specific roles as a possible explanation. In this study, there were no differences at the end of the intervention attending to the role students undertook.

Social responsibility. SE, based and created from sport as a social construct, is closely related to the social responsibility linked to the interactions with others. This essential characteristic of SE could lead to changes in students' social responsibility when exposed to SE. With the goal of promoting the social dimension, SE promotes small groups that are maintained constant during the season, and this environment creates a sense of belonging that Siedentop et al. (2011) called 'affiliation.' Generally, all students want to successfully perform their role in order to contributing to their team's common goal. Research in physical education has highlighted the need to address issues such as respect and, specifically in SE, to promote inclusion (Pill, 2008) and students' affiliation (MacPhail et al., 2008). In this study, students experienced significant differences in the role each performed; the roles of coach, captain, and referee showed the highest scores.

Responsibility Development in Students with Different Perceived Responsibility

In the physical education context, it is usual that students present different characteristics (i.e., skill level, motivation, responsibility). A recent concern related to SE is how amotivated students behave in sporting activities taught through the premises of SE (Perlman, 2010). However, to our knowledge, research on SE has not considered the perceived responsibility of the students during a SE season. For that reason, two groups were established in terms of perceived responsibility, which resulted in identifying a 'high perceived responsibility' group and 'low perceived responsibility' group. As a result of this study, we can conclude that students with low perceived responsibility improved more than students with high perceived responsibility. However, this could be due to a "ceiling" effect that limited improvements in the high perceived responsibility group.

These results highlight SE as a framework in which students, independent of their initial responsibility level, are able to develop their responsibility. However, the fact that students with high perceived responsibility did improve less could lead us to think that SE has not the same benefits for all students. Nevertheless, we have to consider that students with high perceived responsibility had a lower margin of improvement ("ceiling" effect) due to the maximum score students could achieve.

Responsibility Development in Students with Different Perceived Responsibility and Role

Gradually shifting power in a SE season has been highlighted as a contributor to the creation of an environment in which students feel more comfortable during physical education (Sinelnikov & Hastie, 2010). As Sinelnikov and Hastie have shown, SE appears to be an appropriate model for developing responsibility in students in elementary school students who are faced with roles independent of their initial responsibility levels. The study presented in this article contributes to the SE literature as it is the first study that has examined the relationship between the roles students perform and the development of responsibility. We know that some roles could have a greater impact in the evolution of responsibility during the season. However, what we do not know is if this impact

418 is the same for both students with low or high perceived responsibility. For that reason, this final
419 discussion section is focused on better understanding how students, conscious of their initial
420 characteristics (in this case, in relation to responsibility), may be benefited of the role they perform.
421 Although students with low perceived responsibility in all roles start from similar
422 responsibility levels, we note several differences in their results on completion of the season, with
423 differences between some roles in total responsibility, social responsibility, as well as respect for
424 others and caring and helping. In general, students in the roles of captain, coach, and referee
425 experienced higher improvement through the season. These roles were prominent in this intervention
426 in a bid to improve responsibility. On the other hand, there were no significant differences between
427 roles at the end of the intervention for the students in the high perceived responsibility group. This
428 leads us to consider that the responsibility of these students is not affected by the role they perform,
429 with a similar evolution for all the students in the high perceived responsibility group.
430 These results highlight the importance of considering initial characteristics of students (in this
431 case, initial responsibility) in the distribution of roles. In this study, the coach and captain roles were
432 agreed by the teacher-researcher and the teacher (who was familiar with the students' characteristics)
433 to ensure that the roles connected with students' characteristics. The responsibility of students with
434 high perceived responsibility appears to not be affected by the role they perform. The opposite
435 occurs in the case for low perceived responsibility students. A possible explanation could be that
436 students with a high responsibility tend to play an important role in physical education (i.e., being the
437 students who select teams or help with the material) and they are used to making decisions. When a
438 teacher notes that some of their students possess low responsibility in the physical education context,
439 they could consider allocating higher perceived responsibility roles (e.g., coach, captain or referee) to
440 such students in a bid to enhance their participation and increase their responsibility during the
441 lessons. However, we should be conscious of nurturing a gradual progression to increasing
442 responsibility on the basis that not all students know how best to accept the responsibility aligned

443 with SE. If we do not note the personal characteristics of students when considering the allocation of
444 roles, we could be reducing the potential impact of the roles and, in turn, the impact of the
445 intervention.

446 The results of this study provide evidence that SE can develop students' perceived
447 responsibility through experiencing roles. These results connect with Hellison's (2011) idea of
448 empowerment within roles. However, the approach to enacting and experiencing roles is slightly
449 different. Hellison (2011) affirms that the presence of authority figures, such as referee, might limit
450 student's responsibility because the tasks are imposed by another (i.e., the referee). TPSR
451 emphasizes individual learning (i.e., self-awareness, personal well-being and self-direction are
452 prerequisites to becoming socially responsible) as guiding students to become responsible
453 individuals (Escartí et al., 2018) in a non-competitive environment. SE focuses on individual
454 contribution for a collective aim in an attempt that all students positively experience sport following
455 the main characteristics of institutionalized sport. Despite this difference in shifting responsibility,
456 SE and TPSR have previously been combined to enhance the performance of students through the
457 fair play aspects of competition in physical education (Hastie, 2017). Many features of the TPSR
458 model reinforce the possibilities of SE, promoting positive social behaviors (i.e., students'
459 empowerment or positive peer interactions; Hastie & Buchanan, 2000) and personal responsibility
460 (i.e., students performing roles).

461 **Limitations**

462 We are conscious about limitations of this study. First, the sample could have reduced the
463 significant power of the intervention. That is to say, a lowered number of participants (consequence
464 of the analysis by the five roles used in the SE unit) is a constrains to observe significant differences.
465 Second, the assessment of students' perceptions with quantitative data could have limited the
466 students' response due to the maximum punctuation they could select (ceiling effect) in the Likert
467 scale. Third, this study is focused on an isolated two-month season during the student academic year.

For that reason, an examination of the students' behaviors two to three weeks post- (i.e., retention) may help to determine whether these improvements in students' responsibility are maintained over time as the result of the SE intervention. Finally, although the use of the figure of the "teacher-researcher" can let the research team to be immersed in the learning process, this figure could reduce the "ecological validity" (the PE classes were taught by a member of the research team and not by the main PE teacher), which, in turn, could have influenced students' behaviors. Future research should compare students' behaviors when they are taught by the main PE teacher or a member of the research team ("novelty").

Conclusion

Results in this study convey students' responsibility improvements for both personal and social responsibility during a season of SE. We conclude that roles are an important tool in SE for the development of personal and social responsibility. It is clear that not all roles have the same repercussion for students with low initial perceived responsibility, whereas students with high perceived responsibility do not present any difference according to the role they perform. This result highlights the importance of taking into account the personal characteristics of students in the process of mapping students to roles.

Future research should consider the use of both quantitative (i.e., questionnaires) and qualitative (i.e., students' and teachers' interviews) data in an attempt to better understand the impact of students' perception of roles in relation to responsibility. Additionally, we consider that it is important to extend the sample and to evaluate the results with different age groups to examine how age might impact responsibility development. Finally, special attention should be paid to the roles undertaken, adding new roles (i.e., journalist) and considering the rotation of roles.

References

Association for Physical Education. (2015). *Health Position Paper*. London, UK: Association for Physical Education. Retrieved from http://www.afpe.org.uk/physical-education/wp-content/uploads/afPE_Health_Position_Paper_Web_Version2015.pdf

Bailey, R. (2006). Physical Education and sport in schools: A review of benefits and outcomes. *Journal of School Health, 76*, 397-401. doi:10.1111/j.1746-1561.2006.00132.x

Brock, S. J., Rovegno, I., & Oliver, K. L. (2009). The influence of student status on student interactions and experiences during a Sport Education unit. *Physical Education and Sport Pedagogy, 14*, 355-375. doi:10.1080/17408980802400494

Casey, A. (2014). Models-based practice: Great white hope or white elephant? *Physical Education and Sport Pedagogy, 19*, 18-34. doi:10.1080/17408989.2012.726977

Chen, Y., & Curtner-Smith, M. (2013). Hegemonic masculinity in Sport Education: Case studies of experienced in-service teachers with teaching orientations. *European Physical Education Review, 19*, 360-380. doi:10.1177/1356336X13495631

Cohen, J. (1988) *Statistical power analysis for the behavioral sciences* (2nd ed). Mahwah, NJ: Lawrence Erlbaum.

Coulter, M., & Ní Chróinín, D. (2013). What is PE? *Sport, Education and Society, 18*, 825-841. doi:10.1080/13573322.2011.613924

Escartí, A., Llopis-Goig, R., & Wright, P. M. (2018). Assessing the implementation fidelity of a school-based Teaching Personal and Social Responsibility program in physical education and other subject areas. *Journal of Teaching in Physical Education, 37*, 12-23. doi:10.1123/jtpe.2016-0200

Farias, C., Hastie, P. A., & Mesquita, I. (2017). Scaffolding student-coaches' instructional leadership toward student-centred peer interactions: A yearlong action-research intervention in sport education. *European Physical Education Review, 24*, 269-291.

García-López, L. M., Gutiérrez, D., González-Víllora, S., & Valero, A. (2012). Changes in empathy, assertiveness and social relations due to the implementation of the Sport Education model. *Revista de Psicología del Deporte, 21*, 321-330.

Harvey, S., Kirk, D., & O'Donovan, T. M. (2014). Sport education as a pedagogical application for ethical development in physical education and youth sport. *Sport, Education and Society, 19,* 41-62. doi:10.1080/13573322.2011.624594

Hastie, P. A. (1996). Student role involvement during a unit of Sport Education. *Journal of Teaching in Physical Education, 16,* 88-103. doi:10.1123/jtpe.16.1.88

Hastie, P. A. (1998). The participation and perceptions of girls within a unit of Sport Education. *Journal of Teaching in Physical Education, 17,* 157-171. doi:10.1123/jtpe.17.2.157

Hastie, P. A. (2017). Revisiting the national physical education content standards: What do we really know about our achievement of the physically educated/literate person? *Journal of Teaching in Physical Education, 36,* 3-19. doi:10.1123/jtpe.2016-0182

Hastie, P. A., & Buchanan, A. M. (2000). Teaching responsibility through Sport Education: Prospects of a coalition. *Research Quarterly for Exercise and Sport, 71,* 25-35. doi:10.1080/02701367.2000.10608877

Hastie, P. A., & Casey, A. (2014). Fidelity in models-based practice research in sport pedagogy: A guide for future investigations. *Journal of Teaching in Physical Education, 33,* 422-431. doi:10.1123/jtpe.2013-0141

Hastie, P. A., & Sinelnikov, O. A. (2006). Russian students' participation in and perceptions of a season of Sport Education. *European Physical Education Review, 12,* 131-149. doi:10.1177/1356336X06065166

Hellison, D. (2011). *Teaching personal and social responsibility through physical activity* (3rd ed). London, UK: Human Kinetics.

Hordvik, M., MacPhail, A., & Ronglan, L. T. (2019). Learning to teach Sport Education: Investigating a pre-service teacher's knowledge development. *Sport, Education and Society, 24,* 51-65. doi:10.1080/13573322.2017.1322948

Jacobs, F., Knoppers, A., & Webb, L. (2013). Making sense of teaching social and moral skills in physical education. *Physical Education and Sport Pedagogy, 18*, 1-14. doi:10.1080/17408989.2011.621118

Laker, A. (2000). *Beyond the boundaries of physical education.* New York, NY: Routledge Falmer.

Landi, D., Fitzpatrick, K., & McGlashan, H. (2016). Models based practices in physical education: A sociocritical reflection. *Journal of Teaching in Physical Education, 35*, 400-411. doi:10.1123/jtpe.2016-0117

Layne, T., & Hastie, P. (2015). A task analysis of a sport education physical education season for fourth grade students. *Physical Education and Sport Pedagogy, 20*, 314-328. doi:10.1080/17408989.2013.837437

Li, W., Wright, P. M., Rukavina, P. B., & Pickering, M. (2008). Measuring students' perceptions of personal and social responsibility and the relationship to intrinsic motivation in urban physical education. *Journal of Teaching in Physical Education, 27*, 167-178. doi:10.1123/jtpe.27.2.167

Light, D., Funk, C. D., & Light, B. (2018). Relationships among moral and contesting variables and prosocial and antisocial behaviour in sport. *Journal of Moral Education, 47*, 17-33. doi.org/10.1080/03057240.2017.1350149

MacPhail, A., Gorely, T., Kirk, D., & Kinchin, G. (2008). Children's experiences of fun and enjoyment during a season of sport education. *Research Quarterly for Exercise and Sport, 79*, 344-355. doi:10.1080/02701367.2008.10599498

McMahon, E., & MacPhail, A. (2007). Learning to teach sport education: The experiences of a pre-service teacher. *European Physical Education Review, 13*, 229-246. doi:10.1177/1356336X07076878

Metzler. M. (2011). *Instructional models for physical education* (3rd ed.). Scottsdale, AZ: Halcomb Hathaway.

Parker, M., & Stiehl, J. (2015). Personal and social responsibility. In J. Lund & D. Tannehill (Eds.) *Standards-based physical education curriculum development* (3rd ed., pp. 173-204). Sudbury, MA: Jones and Bartlett Publishers.

Perlman, D. (2010). Change in affect and needs satisfaction for amotivated students within the Sport Education model. *Journal of Teaching in Physical Education, 29,* 433-445. doi:10.1123/jtpe.29.4.433

Perlman, D. (2012). The influence of the Sport Education model on developing autonomous instruction. *Physical Education and Sport Pedagogy, 17*, 493-505. doi:10.1080/17408989.2011.594430

Pill, S. (2008). A teacher's perceptions of the Sport Education as an alternative for upper primary school physical education. *ACHPER Australian Healthy Lifestyles Journal, 55,* 23-29.

Pozo, P., Grao-Cruces, A., & Pérez-Ordás, R. (2018). Teaching personal and social responsibility model-based programmes in physical education: A systematic review. *European Physical Education Review, 24*, 56-75.

Siedentop, D., Hastie, P. A., & van der Mars, H. (2011). *Complete guide to sport education.* Champaign, IL: Human Kinetics.

Sinelnikov, O. A. (2009). Sport education for teachers: Professional development when introducing a novel curriculum model. *European Physical Education Review, 15*, 91-114. doi:10.1177/1356336X09105213

Sinelnikov, O. A., & Hastie, P. A. (2010). Students' autobiographical memory of participation in multiple Sport Education seasons. *Journal of Teaching in Physical Education, 29,* 167-183. doi:10.1123/jtpe.29.2.167

Stran, M., & Curtner-Smith, M. (2010). Impact of different types of knowledge on two preservice teachers' ability to learn and deliver the Sport Education model. *Physical Education and Sport Pedagogy, 15*, 243-256. doi:10.1080/17408980903273147

592 Stran, M., Sinelnikov, O., & Woodruff, E. (2012). Pre-service teachers' experiences implementing a
593 hybrid curriculum: Sport Education and Teaching Games for Understanding. *European*
594 *Physical Education Review, 18,* 287-308. doi:10.1177/1356336X12450789
595 Wahl-Alexander, Z., Sinelnikov, O., & Curtner-Smith, M. (2017). A longitudinal analysis of
596 students' autobiographical memories of participation in multiple sport education
597 seasons. *European Physical Education Review, 23,* 25-40. doi:10.1177/1356336X15624246
598 Ward, J. K., Hastie, P. A., & Strunk, K. (2019). Effects of ability grouping on students' game
599 performance and physical activity. *Journal of Teaching in Physical Education, 38,* 187-198.
600 doi:10.1123/jtpe.2018-0140